DOCUMENT RESUME

ED 407 384 SP 037 300

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TITLE Professional Isolation and Stress in Teachers.
PUB DATE Mar 97
NOTE 27p.; Paper presented at the Annual Meeting of the American Education Research Association (Chicago, IL, March 24-28, 1997).
PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Attribution Theory; Elementary School Teachers; Elementary Secondary Education; Foreign Countries; French Canadians; *Loneliness; *Professional Isolation; Secondary School Teachers; *Stress Variables; Teaching Conditions; Vocational Education Teachers
IDENTIFIERS Quebec; *Teacher Isolation

ABSTRACT

The aim of this study was to analyze the relationship between professional isolation and occupational stress in teachers. A systematic random sample of 1158 French Canadian teachers were administered French Canadian versions of the "UCLA Loneliness Scale and Teacher Stress Inventory." Professional isolation was measured by the subjects' responses on a 4-point scale to 20 statements such as "I feel in tune with people around me." Teacher stress was measured by responses on a 5-point scale to the question "As a teacher, how great a source of stress are these factors to you?" Causes of isolation were identified by the model of causal attribution: causality, stability, and controllability, based on a French Canadian translation of the Causal Dimension Scale. The results indicated a positive and significant correlation between isolation and occupational stress. However, the study failed to confirm its predictions concerning the moderator effect of causal attribution. The results of the study are provided in five tables, each of which is followed by a discussion. (Contains 44 references). (SPM)

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ED 407 384

Professional isolation and stress in teachers[1]

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Paper presented at the annual meeting of the
American Educational Research Association
Chicago, March 1997

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Abstract - The aim of the study is to investigate the relationship between professional isolation of teachers and their occupational stress. A systematic random sample of 1158 French Canadian teachers were administered French Canadian versions of the *UCLA Loneliness Scale* and *Teacher Stress Inventory*. The results indicate, as expected, a positive and significant correlation ($r = .26$; $p = .0001$) between isolation and occupational stress. The results highlight the importance of looking for ways to reduce professional isolation of teachers and to pursue research on this topic.

Keys words: Professional isolation; Occupational stress; Teachers

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[1] This study was supported by a grant from Université du Québec à Trois-Rivières. The authors thank the Centrale de l'Enseignement du Québec for its help in data collection. Correspondence and requests for reprints should be addressed to Dr. Marc Dussault, Département des sciences de l'éducation, Université du Québec à Trois-Rivières, C.P. 500, Trois-Rivières, Québec, Canada, G9A 5H7. Tel. (819) 376 5095
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Educational organizations are facing many challenges. They must enhance the quality of their services, ensure that all children are learning, reduce drop out rates and encourage the completion of degrees. The situation calls for improvement and change at every level of the system. At the organizational level, new structures must be put in place to permit, for example, the emergence of a new leadership at the management level. At the local level, the situation calls for changes in the working conditions in which teachers find themselves to accomplish their duties. Such changes are made essential because even though teachers are the primary actors in students' success, their working conditions make playing this major role difficult.

The increasing recognition received by teachers' stress over the recent years (Boyle, Borg, Falzon, and Baglioni, 1995; Byrne, 1994; Travers and Cooper, 1996) constitutes an indication of the difficulties encountered by teachers. In fact, several surveys have revealed that teaching is a highly stressful profession (Boyle et al., 1995; Byrne, 1994; Farber, 1984; Fontana & Abouserie, 1993; Travers & Cooper, 1996). According to the transactional perspective, stress is essentially the degree of fit between the person and the environment (Travers & Cooper, 1996). In other words, stress is the product of interactions between the individual's needs/ressources and the environmental demands. Kyriacou and Sutcliffe (1978, p.2) defined teacher stress, in that perspective, « as a response of negative affect (such as anger or depression) by a teacher usually accompanied by potentially pathogenic physiological and biochemical changes (such as increased heart rate or release of adrenocortinotrophic hormones into the bloodstream) resulting from aspects of the teachers' job and mediated by the

demands made upon the teacher constitute a threat to his self-esteem or well-being and by coping mechanisms activated to reduce threat ». Therefore, it is important within such a model to consider the sources of teacher stress.

A number of studies have been undertaken to identify the major dimensions of teacher stress. The main sources of teacher stress can be summarized into twelve dimensions. These sources of teacher stress include student misbehavior (Beer & Beer, 1992; Boyle et al., 1995; Montalvo, Bair & Boor, 1995; Solman & Feld, 1989; Tellenback, Brenner & Löfgren, 1983; Travers & Cooper, 1996; Whitehead & Ryba, 1995), poor relationship with colleagues, principal and parent (Beer & Beer, 1992; Boyle et al., 1995; Tellenback et al., 1983; Travers & Cooper, 1996; Whitehead & Ryba, 1995), time management (Beer & Beer, 1992; Boyle et al., 1995; Montalvo et al., 1995; Solman & Feld, 1989), lack of influence (Tellenback et al., 1983), lack of professional recognition (Boyle et al., 1995; Tellenback et al., 1983, Travers & Cooper, 1996), salary received (Montalvo et al., 1995), poor school climate and poor environment (Solman and Feld, 1989), work overload (Solman & Feld, 1989; Travers & Cooper, 1996; Whitehead & Ryba, 1995), recent changes in education (Travers & Cooper, 1996; Whitehead & Ryba, 1995), community antagonism (Solman and Feld, 1989), staff shortages, job insecurity and role ambiguity (Travers & Cooper, 1996). At least five major dimensions, that have been identified in three or more studies, emerge from these empirical studies: student misbehavior, poor relationships, time management, lack of professional recognition, and work overload.

In spite of all the studies on teacher stress, the question of social support of co-workers and its relation with teacher stress seems to be not well understood (Russell, Altmaier & Van Velzen, 1987). Moreover, teachers' working conditions make social support difficult to obtain because as many studies (i.e. Carpentier-Roy, 1992; Russell, 1996; Smith & Scott, 1990) indicated, professional isolation is a widespread characteristic of the teachers' life in schools. According to Flinders (1988) such a situation is something of a paradox; classrooms are crowded places and teachers have few opportunities to discuss their work with other personnel (Ray, Waldhart & Seibert, 1985; Rosenholtz, 1985). Despite the fact that professional isolation is one of the reasons most frequently put forward to explain teachers' problems (Achilles & Gaines, 1991; Flinders, 1988; Levine, 1989; Martin & McGrevin, 1990; Moran, 1990; Rosenholtz, 1985; Smith & Scott; 1990) and despite the consideration of poor relations with colleagues in the workplace as a source of teachers' stress (Beer & Beer, 1992; Boyle et al., 1995; Tellenback et al., 1983; Travers & Cooper, 1996; Whitehead & Ryba, 1995), few studies assess teachers' professional isolation and, to our knowledge, no study assesses its link with teachers' occupational stress. The aim of this study is to analyze the relationship between professional isolation and occupational stress in teachers.

Theoretical framework

The cognitive approach to loneliness (Peplau, Miceli & Morasch, 1982; Peplau & Perlman, 1982, Perlman & Peplau, 1981), which is the approach most frequently used in research on loneliness, constitutes the theoretical framework of the study. According

to this approach, loneliness at work and professional isolation are alike in meaning. Based on its definition of loneliness, professional isolation can be defined as the unpleasant experience that occurs when a person's network of social relations at work is deficient in some important way, either quantitatively or qualitatively.

The cognitive approach to loneliness applied to professional isolation leads to the identification of two distinct classes of causes of isolation: precipitating events and predisposing factors (Peplau & Perlman, 1982). Feelings of isolation at work can be precipitated either by changes in the person's achieved social relations or by changes in his desired social relations. The emergence of conflicts is an example of a change that can precipitate the feeling of isolation in the workplace. Personal characteristics such as shyness and unwillingness to take social risk are consistently linked to the feeling of isolation. They can predispose the person to be professionally isolated and increase the duration of the feeling.

Moreover, according to the cognitive approach to loneliness, the consequences of isolation can be moderated by cognitive processes. Causal attributions for isolation are one of these important cognitive processes. According to Peplau, Perlman and their colleagues, the model of causal attributions developed by Weiner (1986) is the one that best fits the study of loneliness. Weiner has classified causal attributions into three dimensions: locus of causality, stability, and controllability. Locus of causality refers to the causes of isolation that are seen as internal or external to the person. Stability concerns whether the cause of isolation is considered to be temporary or

permanent by the person. Controllability involves whether or not the person is believed to have control over his behavior. Attribution theory suggests that internal and stable explanations for professional isolation should have a more negative impact on teachers than external and unstable ones. Moreover, believing that loneliness is due to unchangeable features of the self or of the situation leads to lower expectancies for future social relations and to greater loneliness (Peplau et al., 1982; Weiner, 1986). Finally, perceiving the causes of loneliness as uncontrollable either by the person or by others can lead the person to adopt withdrawal behaviors and to become more isolated. Briefly, causal attributions (causality, stability, and controllability) should play a moderator role between teachers' professional isolation and their occupational stress.

Concerning the effect of professional isolation, the theoretical framework did not permit to predict its relationship with teacher stress. However, the relations observed between isolation and depression (Rich & Scovel, 1987; Rubenstein & Shaver, 1982), alcoholism (Calicchia & Barresi, 1975) and health problems (Rubenstein & Shaver, 1982) suggest a positive relation between those two variables. Moreover, a study from Schill, Toves, and Ramanaiah (1981) showed that non-lonely males were better at coping with stress than lonely ones. On the other hand, non-lonely women seemed to be coping only a bit better than the lonely females. Schill, Toves, and Ramanaiah (1980) assessed the moderator effect of the locus of control on the relationship between loneliness and stress of students. They obtained positive and significant correlations between lonelinesss and somatic and psychological distress (r = .48, p <

.01) for male internal subjects, for male external subjects (r = .17, p < .05) and for female external subjects (r = .28, p < .05). DeBerard and Kleinknecht (1995) reported a moderately positive correlation (r = .29, p < .01) between loneliness and stress intensity. Furthermore, Ginter, Lufi and Dwinell (1996) reported a similar correlation between loneliness and anxiety (r = .33, p < .001). Finally, Riggio, Watring, and Throckmorton (1993) obtained strong negative correlations between loneliness and life satisfaction (r = -.61) and well-being (r = -.43). Results from these studies with students combined with the effects observed by other studies suggest the following hypothesis: There is a positive correlation between professional isolation of teachers and their occupational stress. Finally, the theoretical framework suggests that causal attributions such as causality, stability, and controllability (Weiner, 1986) can moderate the effects of professional isolation.

Method

A postal survey was used to test the hypothesis. Questionnaires were sent to a sample of 2924 teachers who were employed within elementary, secondary and vocational French schools from the province of Quebec, Canada. A response rate of 46 per cent was obtained (elementary, n = 548; secondary, n = 523; vocational, n = 60; and 35 for whom that information is missing). This return rate is comparable to the return rates reported in recent surveys of teacher stress (Byrne, 1994; Solman & Feld, 1989;Travers & Cooper, 1996). Only those who answered all the scales were kept for further analysis. Among these subjects, there were 790 women and 334 men (42 of an unknown gender) whose mean age was 43.77 years, ranging from 23 to 72 years.

Professional isolation is the predictive variable of the study. It is measured by a French version of the *Revised UCLA Loneliness Scale* (Russell, Peplau & Cutrona, 1980). The scale is composed of 20 statements such as *"I feel in tune with people around me"* and "*I can find companionship when I want"*. The statement "*At work* " was placed at the top of the first item to make sure the teachers think about their work while answering the questionnaire. Subjects judge on 4-point scales the extent to which the statements are accurate descriptions of themselves at work. The psychometric properties of the translated version are similar to those of the *Revised UCLA Loneliness Scale*. For example, coefficient alphas have been found to range from .87 to .91 for the translation compared to .94 for the original version. Furthermore, the test-retest correlation of .85 over a period of eight weeks is superior to the one obtained in the original version (r = .73) (De Grâce, Joshi & Pelletier., 1993). The internal consistency of the results produced by the scale in this study was high (coefficient alpha for each item ranged from .87 to .91).

The criterion variable is teacher stress, which is assessed by a French Canadian adaptation of the 20-item sources of *Teacher Stress Inventory* used by Boyle et al. (1995). The inventory is used because the five major dimensions identified in the reviewed studies apply to the model of Boyle et al. (1995). On the basis of a pilot study of the content of the questionnaire, items were modified for use in the Quebec primary, secondary, and vocational school context, and one item (#20 of the original version) judged irrelevant to the context was removed. Each item was rated in terms of

teachers' responses to the question "*As a teacher, how great a source of stress are these factors to you?*" Responses were scored on a five-point Likert-type ordinal scale ranging from 0) No stress, 1) Mild stress, 2) Moderate stress, 3) Much stress, to 4) Extreme stress. The psychometrical properties of the adapted version of the inventory have been verified with a sample of 136 preservice teachers and it appears to be very reliable; coefficient alpha for each item ranged from .87 to .89. In order to verify its stability, the adapted inventory was readministered two weeks later, with a test-retest correlation of .78 ($p = .0001$).

Causal attributions are estimated by a French Canadian translation of the *Causal Dimension Scale* (Russell, 1982). This scale contains nine items, three of which are pertinent to each of the causal dimensions (locus of causality, stability, and controllability). Scores on each causal dimension ranged from three to 27, with high scores indicating internal, stable, and controllable attributions. In the study, the scale appears to be reliable; coefficient alpha for the three scales is .75 (locus of causality), .73 (stability), and .63 (controllability).

The overall self-rating of support and help received at the workplace has been measured by a single variable. The specific question asked, " *In general, to which extent are you supported and helped at work?*", was scored on the following five point scale: from 1) " Not at all supported and helped ", through to 5) " Extremely supported and helped".

Results

Table 1 contains mean scores and standard deviation for professional isolation, *Teacher Stress Inventory* and its subscales, support and help received, and for the three dimensions of causal attributions. It shows that subjects have a mean loneliness score of 39.44 (*SD* = 9.2) and a mean stress score of 38.4 (*SD* =10.9). The mean score at the *Teacher Stress Inventory* suggests that the teachers of the sample experience a moderate level of stress. Table 1 also shows that teachers of the sample have received a small extent of support and help. Finally, it demonstrates that subjects have mean scores of 10.6 for locus of causality, 12.84 for stability and 13.46 for controllability. These scores indicate that the teachers of the sample tend to attribute their professional isolation to external, unstable, and uncontrollable events.

Table 1

Mean scores,Standard Deviation, Minimum and Maximum scores for Professional Isolation (UCLA), Teacher stress inventory (TSI), subscales of the Teacher stress inventory, Support, and Causal Dimensions Scale (CDS) (n= 1158).

Scale	*M*	*SD*	Minimum	Maximum
UCLA*	39.44	9.2	21	69
TSI**	38.4	10.9	5	69
Workload***	2.30	0.8	0	4
Student***	2.57	0.8	0	4
Needs***	1.70	0.8	0	4
Time***	2.11	0.7	0	4
Relations***	1.81	0.8	0	4
Support****	2.82	0.8	1	5
CDS				
Causality*****	10.60	5.6	3	24
Stability	12.84	5.8	3	24
Controllability	13.46	5.5	3	24

* Possible scores range from 20 to 80
** Possible scores range from 0 to 72
*** Possible scores range from 0 to 4
**** Possible scores range from 1 to 5
***** Possible scores range from 3 to 24

Table 2 presents correlations among the variables studied. Greater feelings of professional isolation are found to be associated with a higher level self-reported stress ($r = .25$; $p = .0001$), accounting for 6% in the variance of stress score ($\beta = .30$; $p = .0001$). Therefore, professional isolation is positively related to each subscale of the

Teacher Stress Inventory, and the relationship between professional isolation and the subscale entitled Poor relation presented the greater correlation. As also shown by Table 2, the greater the feelings of professional isolation, the lower the extent of perceived support and help at work (r = -.36; p = .0001). Moreover, perceiving the cause of professional isolation as stable is associated with higher levels of professional isolation (r = .19; p =.0001) and stress (r = .11; p =.0003). Perceptions of the causality and stability of the causes of professional isolation are also significantly correlated (r = .31; p = .0001), indicating that causes rated as more internal were also perceived as more stable by self or others. Finally, subscales of the *Teacher Stress Inventory* are strongly intercorrelated.

Table 2

Intercorrelations between Professional Isolation (UCLA), subscales of the Teacher Stress Inventory (TSI), and Support.

Scale	2	3	4	5	6	7	8	9	10	11
UCLA 1	.25	.16	.14	.20	.19	.30	-.36	-.05	.19	-.04
TSI 2		.72	.79	.66	.85	.75	-.24	-.04	.11	-.01
Work. 3			.49	.39	.61	.47	-.17	-.00	.09	.02
Stud. 4				.34	.51	.47	-.12	-.04	.07	-.03
Needs 5					.48	.43	-.18	-.04	.10	.01
Ress. 6						.58	-.23	-.04	.09	-.00
Rel. 7							-.25	-.02	.08	.02
Supp. 8								.03	-.13	-.01
Caus. 9									.17	.31
Stab. 10										.08
Cont. 11										

1= professional isolation, 2= stress, 3= workload, 4= student misbehaviors, 5= professional recognition needs, 6= time/resources, 7= poor relations, 8= support and help received, 9= locus of causality, 10= stability of the cause of professional isolation, 11= controllability of the cause of professional isolation.
*r*s > .07 are significant at $p < .01$ and *r*s > .12 are significant at $p < .0001$.

Table 3 presents the effects of causal attributions on isolation-stress correlation. The moderator effects of the three causal attributions (causality, stability, and controllability) were tested with a procedure identical to the one used by Zuckerman et

al. (1988). As they propose, the left and middle columns show the results of the regression analysis: the *F* test, the partial *r* and the direction of the effect. It can be seen that two of three regression analyses produced positive partial *r*s, suggesting greater predictability of stress for controllable and stable attributions. It also shows that none of the regression analyses yielded a significant increase in predictability due to the moderator effect. Finally, as done by Chwalisz, Altmaier, and Russell (1992), we divided the causal attributions for professional isolation into internal and external on the locus of causality, stable and unstable on the stability dimension, and controllable and uncontrollable on the controllability dimension. For all dimensions, we omitted the middle category (i.e. where the cause was perceived at the midpoint on the locus of causality, stability dimension, or controllability dimension) in defining high and low scores. The correlations between professional isolation and stress are more positive if the cause of isolation is perceived as stable and controllable.

Table 3

Moderator Effects of Causal Attributions on the Relationship between Professional Isolation and Stress in teachers

Causal attributions	F^a	r^b	High/low attribution correlations[c]
internal-external	1.22	-.03	.18 / .31
stable-unstable	2.87	+.05	.28 / .19
controllable-uncontrollable	2.95	+.05	.29 / .20

[a]F test of the increase in variance accounted for as a result of the isolation X attribution interaction, $df = 1,1149$.

[b]Effect size (Person *r*) associated with *F* test and direction of the effect (+s indicating that the greater the score on scale, the higher the predictability of isolation on stress). The Pearson *r*s are computed from the *F* test as $r = \sqrt{F_1 / F_1 + df_e}$ as done by Zuckerman et al. (1988).

[c]Isolation-stress correlations for subjects that were high/low in causal attributions. All correlations are significant ($p < .01$).

Finally, hierarchical regression analyses were conducted to examine the relation between professional isolation, social support, and stress among teachers. Predictor variables were entered in the following order. First, to control for the impact teacher characteristics on stress, the sex and age were entered in the regression equation. Secondly, professional isolation of teachers was entered in the equation, as

was finally, the perceived social support. The results show that age seems to have a marginal effect on stress. Moreover, they show that women of the sample score higher than men on the *Teacher Stress Inventory*. In fact, the t test performed confirms that women are more stressed than men ($t = 6.00$, $p < .0000$). As shown in Table 4, after controlling for the effects of teachers' characteristics on stress, professional isolation was found to significantly predict stress ($R^2 = .10$). Support was found to interact with professional isolation in predicting teachers' stress. In fact, even though the results show that perceived support significantly enhanced the prediction of stress, it only led to a gain of 3% of explained variance.

Table 4

Relation between stress and professional isolation, and support after controlling for teachers' characteristics

Predictor	ß	R^2	*F*
Age	0.07	.004	4.4*
Sex	-4.33	.04	21.3**
Isolation	0.30	.10	41.3**
Support	-2.52	.13	41.4**

*$p < .05$
**$p < .001$.

Discussion

As predicted, the feeling of professional isolation experienced by teachers was positively correlated with their scores on the *Teacher stress inventory*. This result tends to be congruent with those obtained by DeBerard and Kleiknecht (1995), Ginter et al. (1996), and Riggio et al. (1993) with students. It also confirms opinions of experts (Anderson, 1989; Barnett, 1990; Rosenholtz, 1985; Smith & Scott,1990) about the effect of professional isolation. In fact, the level of professional isolation expressed by teachers in this study are like those expressed by students and elderly people (De Grâce et al.,1993) who are considered by many as the loneliest people. Scores obtained by the teachers in this study are similar to those obtained by teachers in Russell's study (1996). Such a result tends to confirm first that French Canadian teachers are as lonely as their fellow American teachers and secondly, that teaching is in fact, a lonely job. This result highlights the importance of looking for ways to reduce the feeling of isolation of teachers so that teaching becomes a collaborative rather than an individual enterprise. According to Rosenholtz (1985), collaboration sets the conditions under which teachers improve. Such conditions can be found in training programs that are built around peer collaboration like induction programs using mentor and peer coaching, for example. One such program is the Peer-Assisted leadership program (Barnett, 1986) which, as demonstrated by Dussault and Barnett (1996), contributes to the reduction of professional isolation.

With regard to the moderator effect of causal attributions for professional isolation, the study has predicted that internal, stable, and uncontrollable causal attributions for isolation should lead to greater effects on the relation between isolation and stress than external, unstable, and controllable attributions. Contrary to our expectations, none of the regression analyses yielded a significant increase in

predictability due to the moderator effect. We were expecting, like Peplau et al. (1982), that internal attributions would be accompanied by more important effects than external ones. But the correlation between isolation and stress was more positive than for those who attributed it to internal causes. This result can be explained by the fact that internality of the cause of isolation was correlated with controllability for teachers of the sample. In fact, if external causes for professional isolation are perceived as uncontrollable, maybe subjects attribute as many damaging effects to them as to internal ones. However, predictions concerning stability and controllability were confirmed. In fact, as predicted, stable causes seem to lead to a higher predictability of isolation on stress. According to Peplau et al. (1982), attributing isolation to stable causes may lead the person to expect fewer relationships and consequently, to lower their level of social contact that can help to cope with stress. Furthermore, the results do not confirm the prediction about the moderator effect of controllability. The weak internal consistency of the scale measuring controllability can explain this result. Moreover, according to Peplau et al. (1982), available evidence suggests that people conceptualize the causes of isolation on the basis of whether they reflect something about the self versus the setting, and whether they are relatively permanent or changeable. The results obtained tend to suggest that such a conclusion applies to professional isolation of teachers.

Finally concerning the effect of teachers' characteristics, contrary to the study of Russell et al. (1987), only sex was found to predict stress scores. Women seem to be more stressed than men. Moreover, concerning the buffering effect of support on the

relation between isolation and stress, the results present mixed interpretations. Even though the results show that perceived support significantly enhanced the prediction of stress, it only led to a marginal gain of explained variance. The stressors being studied herein all involved work-related situations and the single item instrument used in the study does not present a clear correspondence between the nature of the stressor and the source of the support as long as the source is not mentioned. So the results are not really surprising. A more adapted measure would have certainly led to different results.

Conclusion

The results of this investigation confirm the first prediction which indicates that teachers' feelings of professional isolation are positively and significantly related to their occupational stress. However, the study fails to confirm its predictions concerning the moderator effect of causal attributions.

This study, while revealing an important factor associated with teachers' isolation, has certain limitations which future research might address. The origin of the data constitutes a limitation, perhaps the most important one. In fact, the results could have been jeopardized by the fact that data came from the same source and at the same time. Moreover, the study is also limited by the nature of its correlational design which does not permit the testing of the causal relation between professional isolation of teachers and their stress level. The study highlights the need for longitudinal studies and path analysis to confirm the causal relations. The use of a single item to measure support is another important limit of the study so, we must be careful in interpreting the

results produced. Future studies must take that limit into account and assess the effect of various sources of support on teachers' professional isolation.

Despite these limitations, this study is important in many ways. First and most important, it tends to confirm the loneliness of teaching and by doing so, it enhances the importance of restructuring schools. Secondly, to our knowledge, nobody has ever assessed the relationship between professional isolation and stress in teachers. Morevoer, studies that use the *Revised UCLA Loneliness Scale* (Russell et al., 1980) are usually concerned with the loneliness of students or elderly people. By assessing professional isolation of teachers, the study responds to the need for diversification, as exposed by Paloutzian and Janigian (1989). Finally, the study is also innovative, even though the results are not conclusive, through its assessment of the moderator effect of causal attributions on the relation between professional isolation and stress.

In conclusion, the results of this study suggest that more attention be paid to professional isolation, either by researchers or by practitioners (superintendants, for example) who deal with professionally isolated people such teachers and principals. Briefly, professional isolation of educational agents represents a promising research theme.

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